PROTOCOL EXTENSIONS TO INCREASE RELIABILITY OF BULK DATA TRANSMISSIONS

ABSTRACT OF THE DISCLOSURE

A multimedia network involves sending an initial schedule message prior to broadcast or multicast of a content file. The content file could be a promotion or other file that must be efficiently sent to a large number of end node devices, such as television set top boxes. The schedule message contains at least a bulk transfer end time for the content file so that the end node devices are aware of when the later bulk data transmission of the content file should be completed. The schedule message may contain other parameters such as promotion identification, message start time, duration, frequency, multicast address and port number. The bulk message containing the promotion is then sent using an efficient bulk transfer messaging technique, such as a multicast Universal Data Protocol (UDP) message which does not require acknowledgment of individual packets or individual addresses of the end node devices to be maintained. At the expected end of the transmission time, a determination is made as to whether or not the expect bulk message has been received. If not, the network device reports a message failure to the original scheduling process, which in turn retransmits the promotion package to the previously failing network device via a reliable transport protocol, such as TCP.